

1550nm Ultra-Narrow Linewidth CW Fiber Laser

1. Description:

The 1550nm Ultra-Narrow Linewidth CW Fiber Laser adopts an erbium-doped fiber DFB laser cavity structure, outputs a single longitudinal mode continuous laser with a wavelength of 1550nm, a spectral linewidth of less than 3kHz, an output spectral side mode suppression ratio of more than 60dB, a typical output power of 50mW, and can provide higher power versions. It can provide module or desktop packaging, and is an ideal laser source for applications such as distributed sensing.

2. Features:

- Spectral line width $\leq 3\text{KHz}$;
- All-fiber DFB resonant cavity;
- Wavelength stable without mode hopping.



3. Applications:

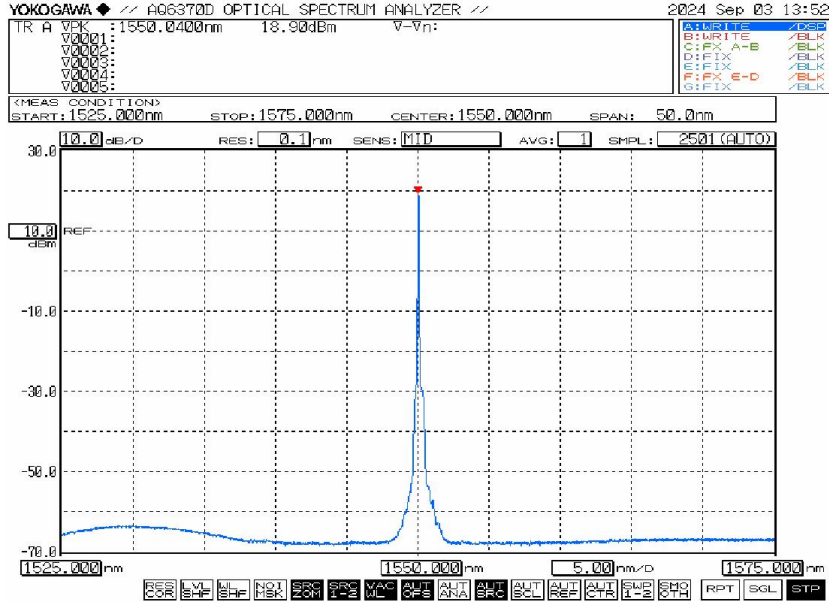
- LiDAR;
- Acoustic sensors, hydrophones;
- Fiber Optic Distributed Sensing.

4. Electro-Optical Characteristics:

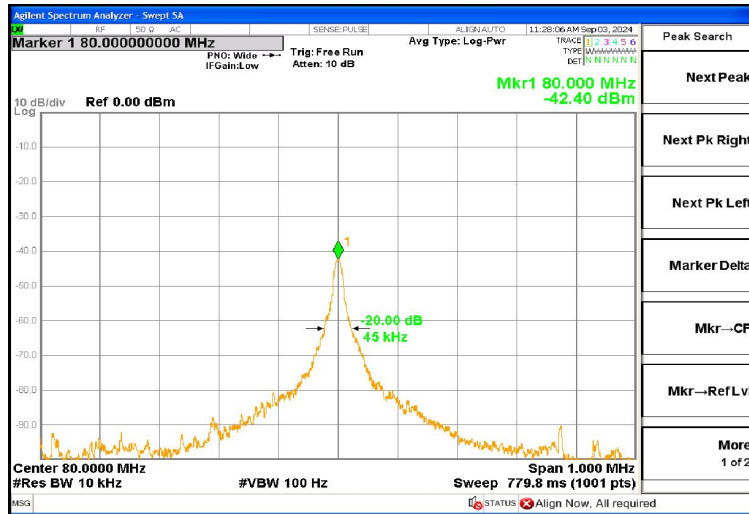
Parameter		Unit	Typical	Remark
Operating wavelength		nm	1550±0.1	1540~1570(customized)
Slow temperature tuning range		nm	±0.1	
Output power		mW	50/100/200/500/1000	
Spectral linewidth@3dB		Khz	<3	20dB linewidth / 20
Side Mode Suppression Ratio		dB	≥60	
Wavelength instability		MHz	≤±25	
Working Mode		-	CW	Continuous light
Power instability (Short-term 15mins)		dB	≤ ±0.02	Equivalence ≤ ±0.5%
Power instability (Long-term 8hours)		dB	≤ ±0.05	Equivalence ≤ ±1.2%
Fiber type		-	SMF-28	Random polarization
		-	PM1550(PER>23dB)	Linear polarization
Pigtail Connector Type		-	FC/APC	Customizable
Dimension	50/100/200mW	mm	255(W)×285(D)×115(H)	B1: Benchtop
	500/1000mW		255(W)×322(D)×115(H)	B2: Benchtop
	50/100/200mW		125(W)×150(D)×31.5(H)	M31: Module
	500/1000mW		139(W)×235(D)×70(H)	M70: Module
Power supply		V	100~240V AC, <30W	Benchtop
			DC 12V, 24W	Module

Communication Interface	-	DB9 Female(RS232)	
Operating temperature	°C	-5~+35°C	
Storage temperature	°C	-40 ~ +85	

5. Typical Spectrum:



6. Typical linewidth:



7. Ordering information:

Name	Wavelength	Output power	Power adjustable (optional)	Fiber type	Dimensions
NLFL	-XXXX	-XX	-X	-XX	-X
Laser	1550: 1550nm	50:50mW 100:100mW 200:200mW 500:500mW 1000:1000mW	T: power adjustable	SM: SMF-28e PM: PM1550	B1/B2: Benchtop M31/M70: Module